Appendix F

BIOLOGICAL ASSESSMENT FOR PORT EVERGLADES ODMDS AND NMFS CORRESPONDENCE

Appendix F

BIOLOGICAL ASSESSMENT

PORT EVERGLADES, FLORIDA
OCEAN DREDGED-MATERIAL DISPOSAL SITE
FINAL DESIGNATION STUDY

Introduction. This Biological Assessment (BA) evaluates the potential impacts to Federally listed threatened and endangered species from designating a final ocean dredged material disposal site (ODMDS) for Port Everglades, Broward County, Florida.

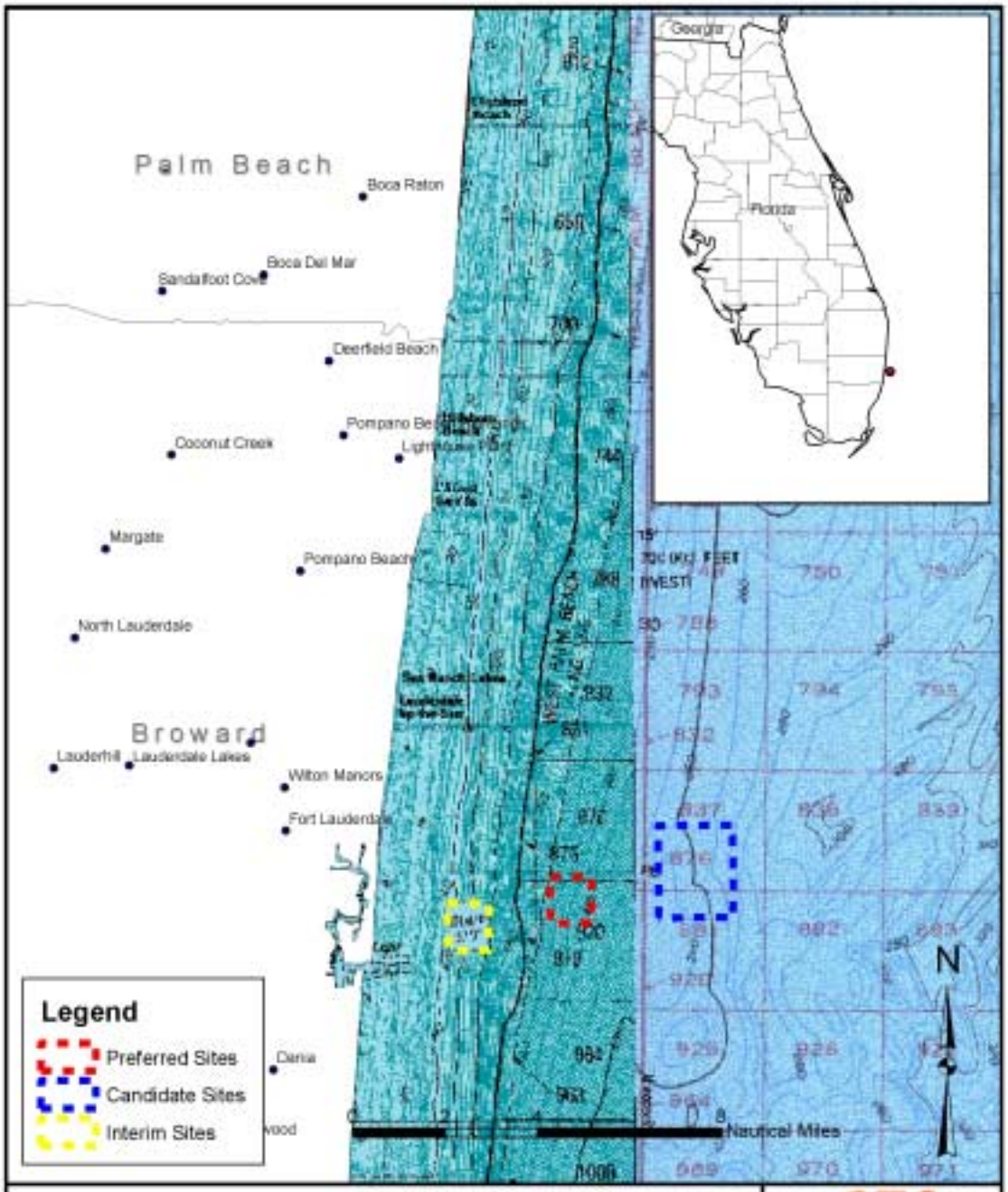
Study Description. Two candidate sites, located off the Atlantic coast of Florida, are under consideration as an ODMDS. The candidate sites are located 4 nautical miles (nmi) off shore and another is at 7 nmi offshore. Each candidate site is approximately 1 square nmi in area. Further investigation and comparison of these sites will lead to the selection of one final ODMDS for Port Everglades, Broward County, Florida. The designated site will hold dredged material from planned maintenance dredging activities in Port Everglades Harbor. The specific location of the candidate sites are shown in Figure 1.

Threatened/Endangered Species and Critical Habitat. The following table presents a list of the threatened and endangered species that may inhabit or occur within the general project area. Currently, there are no critical habitat areas designated in the study area.

Listed Species	Scientific Name	Status	Date Listed
Marine Mammals			
Blue whale	*Balaenoptera musculus*	Endangered	12/02/1970
Finback whale	*Balaenoptera physalus*	Endangered	12/02/1970
Humpback whale	*Megaptera novaeangliae*	Endangered	12/02/1970
Right whale	*Eubalaena glacialis*	Endangered	12/02/1970
Sei whale	*Balaenopera borealis*	Endangered	12/02/1970
Sperm whale	*Physeter macrocephalus*	Endangered	12/02/1970
West Indian manatee	*Trichechus manauts*	Endangered	06/02/1970
Sea Turtles			
Green sea turtle	*Chelonia mydas*	Endangered (1)	07/28/1978
Hawksbill sea turtle	*Eretmochelys imbricate*	Endangered	06/02/1970
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	12/02/1970
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	06/02/1790
Loggerhead sea turtle	*Caretta caretta*	Threatened	07/28/1978
Fish			
Shortnose sturgeon	*Acipenser brevirostrum*	Endangerd	03/11/1967
Seagrass			
Johnson's seagrass	*Halophilia johnsonii*	Threatened	09/14/1998

(1) Green sea turtles are listed as threatened, except for breeding populations of green sea turtles in Florida and on the Pacific coast of Mexico, which are listed as endangered.

Source: NMFS,2002; USFWS, FGFWFC, 1997.



ALTERNATIVE SITE LOCATION MAP

Port Everglades ODMDS

Palm Beach and Broward Counties, Florida

USGS 1:250,000 Series West Palm Beach (1987) Quadrangle
and NOAA Bahamas (1968) Bathymetric Map

GEC
Gulf Engineers & Consultants

Figure: 1
Date: March 2002
Scale 1:209,788
Source: USGS/GEC/NOAA

Blue Whale (*Balaenoptera musculus*). The blue whale is the largest mammal, possibly the largest animal, to ever inhabit the earth. An average blue whale is between 75 and 80 feet long and weighs about 110 tons. Females are typically larger than the males and can weigh up to 150 tons. Blue whales can be found in all the oceans of the world. They mate and calve in tropical to temperate waters during the winter months and feed in polar waters during the summer months. Today it is estimated that about 5,000 blue whales exist in three populations in the North Atlantic, North Pacific, and the Southern Hemisphere.

Finback whale (*Balaenoptera physalus*). Adult males can measure up to 78 feet with the females being slightly larger. Weight for both sexes of the finback whale is between 50-70 tons. Finback whales can be found in all oceans of the world. They migrate to subtropical waters for mating and calving during the winter. The summer months are spent feeding in the colder areas of the Arctic. The present population is estimated to be about 40,000, a small percentage of the original population.

Humpback whale (*Megaptera novaeangliae*). Adult humpback males can measure between 40-48 feet while female humpbacks can grow to be 45-50 feet in length. Both the male and female of the species can weigh between 25 to 40 tons. Humpbacks can be found in all the oceans of the world. Most follow a regular migration pattern summering in temperate and polar waters for feeding and wintering in tropical waters for mating and calving. Presently there are about 15,000 to 20,000 humpback whales in existence. That represents approximately 15-20 percent of the original population.

Right whale (*Eubalaena glacialis*). Adult right whales can measure between 45 and 65 feet in length with the females of the species typically being larger than the males. Right whales can also grow to 30 to 80 tons. Right whales range throughout the western North Atlantic and have five known congregation areas, including an area off of the Southeastern United States. Right whales are the most endangered large whale in the world. There are approximately 300 whales known to inhabit the eastern coasts of the U.S. and Canada.

Sei whale (*Balaenoptera borealis*). Most sei whales range between 40 to 50 feet in length. Males tend to be slightly smaller than the females. Sei whales can be found in all the oceans of the world. They live in the temperate and sub-polar regions during the summer months and migrate to sub-tropical seas during the winter. Current numbers of sei whales is estimated to be about 54,000, approximately 20% of the original population.

Sperm whale (*Physter manrocephalus*). The sperm whale is the largest of the toothed whales. Males can reach lengths of 49 to 59 feet long and weigh up to 35 to 45 tons. Female sperm whales are usually much smaller, typically growing to about 36 feet and weighing a maximum of 13 to14 tons. Sperm whales can be found worldwide. Males tend to stay in higher latitudes during the summer months and then migrate to lower latitudes. Only physically mature males enter into breeding grounds close to the equator. Females, claves, and juveniles stay in tropical waters year round. There are at least 500,000 sperm whales in existence. It is estimated that at one time there were 2 million sperm whales throughout the world.

West Indian manatee (*Trichechus manatus*). West Indian manatees are large, slow moving coastal mammals. Adults are typically 10 to 13 feet in length and 440 to 1,100 pounds in weight. Distribution of the West Indian manatee in the United States is predominately in the southeastern portion of the country (Florida, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina). U.S. populations are primarily in Florida. The estimated population in Florida was 1,465 individuals in February of 1991.

Green sea turtle (*Chelonia mydas*). Adult green sea turtles can measure about 3 feet in length and weigh up to 400 pounds. Green sea turtles can be found from Texas to Massachusetts and around the U.S. Virgin Islands and Puerto Rico. They can also be found in the North Pacific and around tropical islands in the Central Pacific. Total populations are unavailable. However, there is an estimated 200 to 1,100 nesting females on U.S. beaches.

Hawksbill sea turtle (*Eretmochelys imbricata*). Hawksbill sea turtles are small to medium sized. Nesting females average 2 to 3 feet in length and typically weigh up to 175 pounds. The hawksbill sea turtle occurs in the tropical and sub-tropical waters of the Atlantic, Pacific, and Indian Oceans. They are observed with regularity on the reefs off of Palm Beach County where the warm Gulf Stream current passes close to shore. Population estimates and trends are difficult to determine due to its habit of solitary nesting. However, the decline in nesting populations is accepted by most researchers.

Kemp's ridley sea turtle (*Lepidochelys kempii*). Kemp's ridley sea turtle is the smallest of the extant sea turtles. Adults are typically less than 175 pounds in weight and are about 2 feet in length. They can be found mainly in the Gulf of Mexico as well as the Atlantic Ocean. The Kemp's ridley sea turtle has been in decline many years. In one day of nesting in 1947, approximately 42,000 females were counted. In the mid 1980s that number had declined to about 1,000.

Leatherback sea turtle (*Dermochelys coriacea*). The leatherback is the largest living turtle. Adult turtles average 5 feet in length. Weight can range from 440 to 1,500 pounds. The leatherback can be found in areas between Nova Scotia south to Puerto Rico and the U.S. Virgin Islands. They are also commonly seen in the offshore waters of Hawaii. Nesting populations of leatherback turtles are difficult to estimate because females frequently change beach locations. However, it is estimated that there are approximately 20,000 to 30,000 females worldwide.

Loggerhead sea turtles (*Caretta caretta*). Adult loggerhead turtles average 3 feet in length and 250 pounds in weight. They can be found worldwide, inhabiting continental shelves, bays, estuaries, and lagoons in temperate, subtropical, and tropical waters. The leatherbacks range in the Atlantic is from Newfoundland south to Argentina. The number of nesting females in South Carolina and Georgia may be declining while the number of nesting females in Florida appears to be stable.

Shortnose sturgeon (*Acipenser brevirostrum*). The shortnose sturgeon is among the most primitive of the boney fishes. The shortnose sturgeon is the smallest of the three sturgeon species that live in the eastern North America. It has a maximum known length of 4.5 feet and a weight of 50 pounds. The shortnose sturgeon is an anadromous fish, mainly living is slower

moving rivers and nearshore marine waters, and migrating to faster moving freshwater areas to spawn. It inhabits the Atlantic seaboard from New Brunswick, Canada to Florida. No estimate of shortnose sturgeon populations is available.

Johnson's seagrass (*Halophilia johnsonii*). This flowering marine plant has a limited distribution and is the least abundant seagrass within its range. Johnson's seagrass is found in patchy distribution along the east coast of Florida from central Biscayne Bay to Sebastian Inlet. The largest documented patches are located inside the Lake Worth Inlet.

Assessment of Potential Impacts on Listed Species and Critical Habitat. The list of designated threatened and endangered species for the project area was obtained from the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. Maps were studied for evidence of possible conflict with threatened and endangered species and critical habitat.

Of the species listed in the above table as threatened and endangered, several can be virtually eliminated from consideration for potential adverse impacts due to their unlikely presence within the immediate vicinity of the proposed ODMDS. The West Indian manatee favors habitat that is associated with rivers, estuaries and nearshore areas. The shortnose sturgeon also favors similar habitat. In light of the offshore and distant nature of the candidate sites from any nearshore area, the West Indian manatee and the shortnose sturgeon are not likely to be present. Considering the rare and very limited distribution of Johnson's seagrass and the extensive depth at each candidate site, it is improbable the Johnson's seagrass would be present. Bottom samples taken at each candidate site indicates that there were no seagrasses present in the candidate sites.

The remaining marine mammals (whales) and sea turtles identified for consideration are transient by nature and, therefore, their presence in the both candidate sites would be brief. All of these species are highly motile and could easily avoid any dredged material disposal activities that would occur at either site. The use of either candidate site for the disposal of dredged material would not affect any listed species nor would it contribute in any way to the primary reasons for their being listed as threatened or endangered (overhunting for the whales; and overhunting, loss of nesting areas, hatchling disorientation by artificial light, and trawl net entrapment for sea turtles). Due to the lack of designated critical habitat within either candidate site, there will be no adverse impacts to critical habitat.

Conclusions. The final designation of an ocean dredged material disposal site for Port Everglades Harbor maintenance dredging materials will not adversely affect any listed threatened or endangered species or critical habitat. Formal Section 7 Consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service will not be required.